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ABSTRACT

In the first of two studies of the data processing program at Johnson County Community College (Kansas), students enrolled in data processing classes during spring 1978 were surveyed to collect basic demographic data and to obtain opinions about the program. There were approximately as many men as women enrolled and the median age was 25, slightly higher than the overall college median of 22. About one-fourth of the students had bachelor's degrees and another fourth had attended another college. About one-third planned to receive an Associate of Arts degree; slightly more than 40% planned to take only certain courses. Overall, instruction and curriculum were rated better than the equipment and facilities, however, more "hands on" experience was desired. In the second study, area employers and students were surveyed to assess the adequacy of existing data processing course offerings. There was interest in courses related to both large and small systems. About 25% of the employers required an Associate Degree, while 10% required a Bachelor's. Half required from one to two years experience. Persons with four or more years experience were most in demand. Approximately 56% of the employers had some interest in using students for part-time employment. Teleprocessing was the major interest of both employers and students. Data tables are included and the survey instruments appended. (Author/MB)

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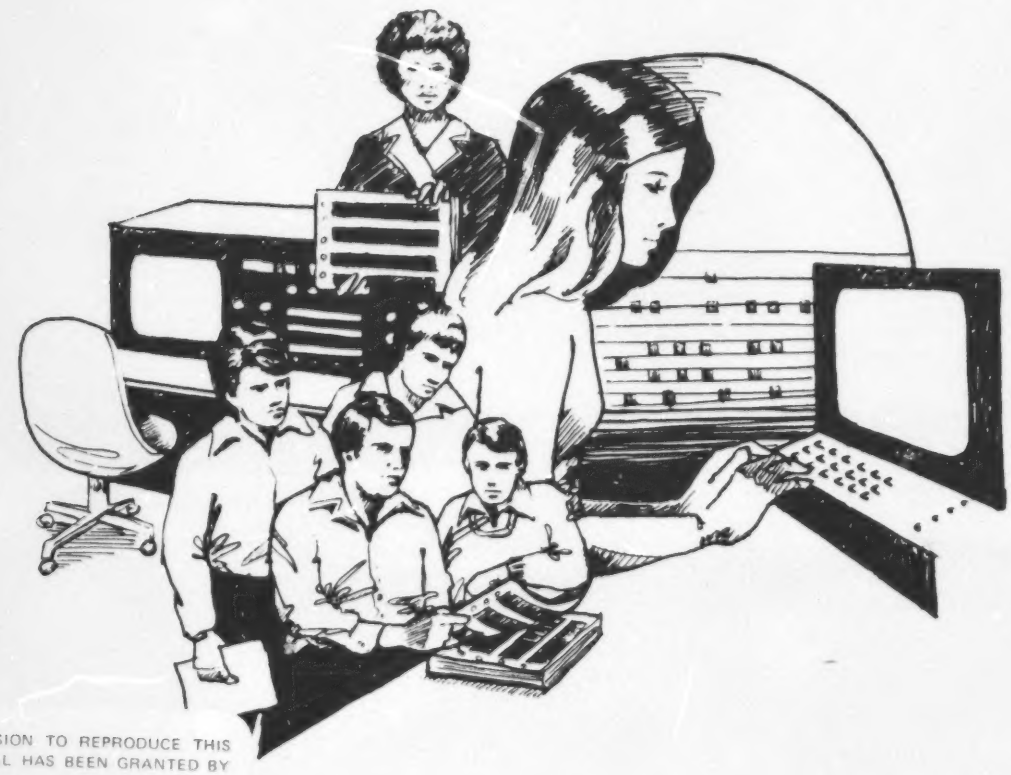
JCCC DATA PROCESSING PROGRAM IN ITS TENTH YEAR

(Present status and new directions for the instructional program)



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JC 790 137

February 1979
Office of Institutional Research
In cooperation with the
Data Processing Career Coordinator
Johnson County Community College
College Boulevard at Quivira Road
Overland Park, Kansas 66210

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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PREFACE

Purpose of Report

Data Processing was one of the seven career programs offered when the College opened during fall 1969. During the last ten years, there have been numerous changes in the field of data processing as well as in the composition of the JCCC student body. During fall 1977, the Coordinator of Data Processing requested the Office of Institutional Research to assist with two studies.

The purpose of the study in the report beginning on page 10, was to obtain demographic information about students in the data processing career program and to obtain their opinions about the existing program. The purpose of the second study reported on page 23 , was to obtain input from employers to determine whether changes were needed in the data processing curriculum. Abstracts of these two reports are on pages one and two.

The reports summarizing the two studies were reviewed and discussed by the Data Processing Advisory Committee. The recommendations of that committee begin on page three. Suggestions for implementing the recommendations begin on page seven.

Career Student Follow-ups

Each year the Office of Institutional Research, in cooperation with the career coordinators, conducts a follow-up of all JCCC students who graduate or leave with a marketable skill. The class of 1973 had seven data processing students eligible for follow-up, while the class of 1977 had 59 such students. During the last five years, 156 of the 192 data processing students have been interviewed. Overall, 84 percent were

employed in jobs using their programming skills.

For the class of 1977, 63 percent of those employed had held their job prior to enrolling in the program. Job advancement was the reason about two-thirds of the students enrolled in data processing. The remaining one-third enrolled for job entry purposes. Their median age was 28 when they left JCCC and 48 percent were ages 30 or more. Twenty-nine percent of the students had at least a Bachelor's degree before entering the program.

More detailed information about data processing students from the classes of 1973 through 1977 is summarized in a report "A Five Year Perspective on Job Placement for JCCC Career Students" completed June 1978 by the Office of Institutional Research.

History of Program

The number of different courses in the data processing program has increased from five during 1969 to 18 at the present time. During the fall 1978 semester, 81 credit hours of data processing were offered to approximately 500 students. A total of 1,790 student credit hours were generated. There were 234 students who completed VE-50 affidavits.

During 1970-71 student developed data processing programs were sent by courier to the Shawnee Mission School District to be compiled. A three to four day turnaround was normally required. During 1971-72, programs were sent by courier to the Johnson County Courthouse in Olathe. Turnaround time was one to three days. During that same year, a remote batch terminal was installed and jobs were processed at MCAUTO in St. Louis with a two to three hour turnaround. Timesharing was also installed to process programs at United Computing via teletypes.

The 1972-73 year started at the new campus with the data processing laboratory on the third floor of the General Education Building. MCAUTO and United Computing were used for remote batch and timesharing processing. The Marine Corps selected JCCC as one of three colleges to be used as national training centers for their data processing personnel. Marines were assigned to the college program for one to two years so they could complete the Associate of Arts degree in data processing. The program was called MADCOP (Marine Associate Degree Completion Program) and lasted four years. During that time, three groups of marines graduated.

In 1973-74, the data processing laboratory was moved to the first floor of the General Education Building. The first data processing course taught over television was offered during 1975-75. During that same year, hearing impaired students enrolled in data processing.

Significant changes were made in 1975-76 when remote batch processing was switched to Kansas State University at Manhattan. Courses on the IBM System III also began since the College had purchased the equipment for the business office. However, courses on the System III were offered for only two years. During 1977-78, a Burroughs B1800/B1700 was purchased as a replacement and the data processing laboratory was moved to the Educational Media Center.

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EDUCATIONAL NEEDS OF DATA PROCESSING COMMUNITY
METROPOLITAN KANSAS CITY
SPRING 1978

ABSTRACT

Area employers and JCCC data processing students were surveyed Spring 1978 to obtain information that could be used to assess existing data processing offerings. Most of the business respondents were employed as data processing managers and more than half had been in data processing jobs for at least ten years.

There was interest in courses related to both large and small systems. COBOL and RPG II were each used by almost half the responding companies and ALC by slightly more than one-third. FORTRAN and PL/1 were each used by about one-fourth the companies.

One out of four employers required an Associate Degree while one out of ten required a Bachelor's degree. Half the employers required from one to two years' experience. Persons with four or more years experience were the most in demand. Approximately 56 percent of the employers had some interest in using JCCC data processing students for part-time employment.

Teleprocessing was the major interest of both employers and students. Systems design and analysis, structural programming, data processing management and data processing auditing were of interest to more than 50 percent of the respondents. No one had taken a course on hobby or micro computers, but about 50 percent were interested.

The complete report begins on page 23.

DATA PROCESSING STUDENT SURVEY
SPRING 1978

ABSTRACT

Students enrolled in data processing classes (except Programming Fundamentals) during spring 1978 were surveyed to collect basic demographic data and obtain their opinions about the data processing program. There were appoximately as many men as women enrolled in data processing courses. However, the median age of 25 was slightly higher than the overall JCCC median age of 22.

About one-fourth of the students had a bachelor's degree and another one-fourth had attended another college. About one-third of the students plan to receive an Associate of Arts degree while slightly more than 40 percent plan to take only certain courses.

Overall, students rated the instruction and curriculum better than the equipment and laboratory facilities. Major suggestions were to have more "hands on" experience, more career information and to have summer classes (particularly at night). There were requests for the study of micro-computers and more non-business applications.

The complete report begins on page 10.

DATA PROCESSING ADVISORY COMMITTEE
RECOMMENDATIONS

The two reports which begin on pages 10 and 23 , were reviewed by the Data Processing Advisory Committee. After considerable discussion, the committee submitted the following recommendations to the Data Processing Coordinator.

I. DATA PROCESSING CURRICULUM

Objectives

Data Processing courses are needed for students who wish to:

- Train for a career in Data Processing
- Continue with professional development
- Explore Data Processing as a possible career
- Transfer to a four-year institution
- Study Data Processing as it relates to other career areas

Courses

New Courses:

- Micro-computers
- Small Systems Curriculum
- Year Internship (operate, design, program and implement)
- Seminar--Ethics and Human Relations
- Data Processing auditing
- Data Processing Management

Summer Classes: Offer courses for beginning and advanced students

Short Courses:

- Two - one hour short course in BASIC during semester
- Two - one hour short course in FORTRAN during semester

Current Courses:

- Program plan for professional development
- Program plan for career training

Brochure and Catalog: Career-literature should include information about transferability of courses

Professional Development Career Path

Courses for these individuals should include (in addition to current Data Processing courses) Data Processing Management, Human Relations, Communications, Data Processing Topics (changes with current issues) and Systems Project. Application Programming should be optional for students with one or more years of operations or programming. For experienced persons electing to take Application Programming training plans and evaluations would not be used for work experience, but rather a form certifying the person does work in Data Processing. The company the individual works for would be visited as part of the certification and for continued public relations.

Career Training

A program would be developed for students who do not have experience in Data Processing and are not currently working in the field. A second year internship course would be offered that would involve computer operations, systems design, programming, and implementation of a project. This could possibly be an alternative to Application Programming or taught in conjunction.

Internship

Develop five intern positions at Johnson County Community College for a two semester period. Develop two intern positions at Johnson County Community College for the summer semester. Each intern works fifteen hours per week during fall and spring semester and forty hours per week during the summer semester progressing through operations, systems design, programming, and implementation. Minimum wage would be paid.

II. INSTRUCTORS

Number of Instructors

During fall 1978, 81 credit hours were offered in Data Processing to approximately 500 students. The current work load for the three full-time staff accounted for 41 credit hours. The remaining 40 credit hours were taught by part-time staff or on an overload basis.

In order to maintain a quality educational program it is recommended that a fourth full-time staff member be hired for 1979-80 and a fifth position considered for the 1980-81 school years. (Especially if the new courses are added.)

Professional Development

It is recommended that each staff member attend a national seminar, workshop, or conference at least one every two years. (Once a year preferred.) In addition, it is recommended that local professional organizations be attended.

The staff should continually allot time to review professional magazines and newspapers to keep informed of changes. They should also be given time to upgrade present courses to reflect the state of the art. The coordinator in addition should visit companies in the metropolitan area to keep informed of their state of the art, personnel need and community trends. (This is an integral part of determining the direction of the Data Processing program.)

Note.--The Data Processing industry changes so rapidly that it is a paramount importance that classes reflect the latest information available. This is time consuming, but extremely important.

Workload

It is also recommended that the work load be re-evaluated and adjusted to reflect:

- Teaching on new equipment
- Teaching a new course
- Career program evaluation
- Career program development
- Equipment selection occurring

- Present courses redeveloped and upgraded to reflect current trend and industry changes (continual)
- Student counseling
- Industry visits
- New or expanding assignments to workload

Programming classes should be held to a maximum of 25 students.

III. HARDWARE

In-house Time-sharing System

Based on a review of the service received and the money spent for UCS time-sharing the recommendation was made that we change to in-house equipment to handle time-sharing BASIC. The new system needs to be able to handle six terminals initially and have capabilities to expand to twelve. This type of system would allow unlimited student use and the possible expansion to allow other areas to have terminals (Mathematics, Science, etc.).

Micro-computer

Based on the increased use and popularity of the personal computer and Micro-computer in business, it was recommended that a Micro-computer system be purchased to allow student "hands on" with a small system. (Over a four year period, add four systems.)

Time Sharing Option (TSO)

Time Sharing Option type entry for student jobs instead of cards.

Funds

Continued funds to buy current equipment because of rapid changes in field for Micro-computer.

Schedule

Fall 1978	Determine recommendations, long and short range goals.
Spring 1979	Select an in-house time-sharing system to be used for Business Data Processing and Programming Fundamentals (potential use in related areas). Delivery data June 1979.
Summer 1979	Prepare system for use in Fall 1979 classes. Determine facility needs.
Fall 1979	Select Micro-computer system. (Delivery date June 1980) Design program for professional development and career training.
Spring 1980	Develop new courses
Summer 1980	Prepare for use of Micro-computer in classes in Fall 1980.

Because of the rapidly changing environment of Data Processing the evaluation of equipment, facilities, and courses should occur on a regular basis so that Data Processing program can continue to meet community needs on a timely basis.

DATA PROCESSING CAREER COORDINATOR'S RESPONSE

The data processing instructional program at JCCC needs to make some changes to keep current on a national and local basis. The current teaching staff had experience in industry when originally hired. However, the field of data processing has changed rapidly and significantly during the last ten years. On-going professional development is essential to keep aware of new technology and methods.

Professional Development

Each full-time data processing instructor should be given four credit hours of release time per academic year to do one of the following activities:

- Prepare to teach a new course
- Prepare to teach on new equipment
- Update on existing course to reflect current trends and industry changes
- Prepare material for all instructors to use in a specific course (e.g., structured programming)
- Study new concepts and their implications and effects for the program (e.g., RPG II v. RPG III)
- Pertinent information that would significantly impact on the program

By May 1 of each year, the purpose of each instructor's release time for the next academic year would be submitted in writing. The request would specify what was to be accomplished and why the program would benefit from the activity. At the end of the semester during which the release time was granted, a written report would be required to document that the project was completed.

Coordinator's Job

During the ten year expansion of the data processing program, the duties of the coordinator have also expanded. Students, courses and staff have increased. Data Processing facilities such as the laboratory have changed and become more complex. Administrative tasks have also increased. Currently, the coordinator's job has three distinct parts. The complete description is presented in the data processing coordinator's Charter of Accountability. A summary is presented below:

1. Teaching

   - Lecture
   - Laboratory
   - Student Conferences
   - Prepare lectures, demonstrations and tests
   - Grade programs, assignments and tests
   - Review and revise class related material

2. Coordinate student on-the-job training

   - Teach field study course
   - Confer individually with students to discuss job progress
   - Make at least two coordination calls at each student's place of employment
   - Keep state and college records
   - Confer by telephone with employers
   - Help students to find jobs

3. Administrative tasks for the Data Processing program

   - Counsel and develop program plans for data processing students
   - Work with full and part-time staff
   - Work in conjunction with the Director of Educational Data Systems
   - Work in conjunction with the Director of Business and Economics to keep program within framework and goals of the division

   - Coordinate the data processing laboratory
   - Conduct annual career program evaluation
   - Develop career program
   - Make community appearances and speeches
   - Make industry visits

- Review program literature
- Complete college, state and vocational reports
- Assist in the evaluation and selection of computer equipment
- Develop and help administer a $200,000 budget
- Conduct inventory
- Monitor computer contract time

Implementation of Recommendations

To implement the recommendations of the Advisory Committee will require a change in the career coordinator's job description. First, it is recommended that the coordination of student on-the-job training be handled by an instructor other than the coordinator. The coordinator would be expected to be a guest lecturer in that course, however, and visit companies on a selected basis. Second, the coordinator would teach one course each semester and spend the remaining time handling administrative duties. Therefore, approximately 25 percent of the time would be spent teaching and 75 percent would be spent on administrative tasks.

The recommendations made by the Advisory Committee are comprehensive and intended to upgrade the data processing program to the "state of the art." If those recommendations are to be implemented, changes must be made. Those changes include professional development and the career coordinator's job.

DATA PROCESSING STUDENT SURVEY
SPRING 1978

I. INTRODUCTION

JCCC has regularly monitored the success of its career programs by conducting an annual follow-up. Students who graduate or leave with a marketable skill are contacted by telephone during the next academic year. The data are submitted to the Kansas Department of Education. The JCCC Office of Institutional Research also prepares a written report which incorporates a comparison with previous follow-ups.

There has been a growing awareness that there needs to be some program evaluation conducted periodically while students are enrolled at JCCC. The existing instructor evaluation instrument permits some evaluation of individual instructors. However, there is no formal method for program evaluation by current students.

The purpose of this pilot study was to obtain demographic information about students in the data processing career program and to obtain their opinions about the existing program. The results of this pilot study for one career program could be adapted and used as one component for assessing other career programs.

II. METHODOLOGY

The questionnaire was prepared by the Office of Institutional Research in cooperation with the data processing full-time instructors.

Office of Institutional Research

July, 1978

Members of the Academic Council and other career coordinators in the Business and Economics Division were asked for suggestions which were incorporated into the final survey instrument.

The questionnaire (Appendix) was administered to all data processing classes except Programming Fundamentals during April 1978. There were 187 students in the sample.

III. CHARACTERISTICS OF DATA PROCESSING STUDENTS (TABLE 1)

The mean age (27 years) and the median age (25) of data processing students were slightly higher than the overall JCCC mean of 26 and median of 22. There were approximately as many men as women (51.1% v. 48.9%) enrolled in data processing.

About half the students had attended another college (50.8%); and about one-half (52.9%) of these students had obtained at least a bachelor's degree. Hence, about one-fourth of the total number of students in the sample had earned a bachelor's degree or higher. The presence of such a large number of persons with college degrees may be due to rapid technological changes in this field and the increasing use of data processing in the business world. Some are likely enrolled to learn a new occupation while others may be interested only in a basic understanding of data processing.

IV. REASON FOR ENROLLING, PRIOR OCCUPATION AND CURRENT EMPLOYMENT (TABLE 2)

Of the 187 data processing students, 29.9 percent enrolled to learn a new occupation, 31.6 percent to find out if capable and interested in the field, 23.5 percent to improve present skills in field, 23.5 percent

to gain an overview of the field, 17.6 percent to transfer to a four-year college or university and 7.0 percent to satisfy on-the-job training requirements.

Forty-four students gave multiple reasons for enrolling in this program and two did not respond. If these 46 multiple responses are excluded, 43.3% of the remaining students were enrolled for job oriented reasons, 42.5% were enrolled for exploratory reasons, and 14.2% were enrolled for transfer reasons.

Of the 185 students who gave answers to the questions concerning occupation before enrollment, 57.3 percent had worked in another field (37.8% full-time and 19.5% part-time). This trend of employment in a field other than data processing continues for current occupation with 51 percent currently working in another field. However, the percentage working full-time is somewhat smaller and the part-time slightly larger (28.4% full-time and 22.6% part-time). It is interesting to note that the percentage unemployed before and after enrollment is practically unchanged (14.6% v. 15.1%), while the percentage of those working in program related jobs shows some increase (28.1% v. 33.9%).

V. FACTORS INFLUENCING DECISION TO ATTEND JCCC (TABLE 3)

The greatest factors influencing these students to attend JCCC was location; this factor was rated "very important" by 70.6 percent (Table 3). A large percentage of "very important" ratings were also obtained for the ability to work and attend college (64.1%) and cost (52.4%). JCCC's overall reputation and the program's reputation were also important considerations, but not as important as location, ability to work and attend college, and cost. However, when the "very important" and

"somewhat important" percentages are added together, all five factors were considered important by 60 percent or more of the students.

VI. STUDENT PERCEPTIONS OF JCCC (TABLES 4 AND 5)

Table 4 shows the data processing student ratings of the data processing curriculum, instruction, equipment and laboratory facilities as well as the ratings of the overall JCCC instruction and curriculum. The responses are summarized below.

- 78.6 percent rated the program curriculum as excellent (24.6%) or good (54.0%).
- 73.8 percent rated the overall JCCC curriculum as excellent (17.6%) or good (56.2%).
- 64.2 percent rated the laboratory facilities as excellent (15.5%) or good (48.7%).
- 62.6 percent rated the equipment as excellent (13.9%) or good (48.7%).
- 85.0 percent rated the program instruction as excellent (31.0%) or good (54.9%).
- 72.2 percent rated overall JCCC instruction as excellent (15.0%) or good (57.2%).

Table 5 shows student feelings about how much they were learning in data processing and their satisfaction with the program. The responses are briefly presented below.

- 93.1 percent felt they were learning something in data processing.
- 91.4 percent were either highly satisfied (23.5%) or satisfied (67.9%) with the knowledge ("how to") offered in data processing.
- 87.1 percent were either highly satisfied (17.6%) or satisfied (69.5%) with the skills training ("to do") offered in data processing.
- 51.3% would like their degree to specify their major field of study. Some (16.1%) prefer that the major field not be specified while the remaining 32.6% had no preference.

- 93.0 percent felt that they either learned "a lot" (66.3%) or "some" (26.7%) from data processing projects.
- 18.7 percent had taken data processing courses elsewhere. Of those 35 students, 31 students felt that JCCC's were either better (N=11) or comparable (N=20). Four students felt JCCC's were not as good.

VII. STUDENT EDUCATIONAL PLANS (TABLE 6)

About one-third (32.1%) plan to complete the program and receive an Associate of Arts degree while 41.7 percent plan to take only certain courses and 25.1 percent are uncertain of their plans. Two students did not answer the question.

Slightly more than half the students (51.7%) will have had nine or less hours in the program by the end of the Spring 1978 semester. The mean was 18 credit hours and the median was 8 credit hours.

A majority (69.0%) plan to continue in the program in Fall 1978. Those who do not plan to continue were graduating, transferring (some to graduate school), or had other interests. Most of the students need fifteen or more credit hours to complete the program (77.6%). Half the students need 22 or more credit hours.

Slightly more than one-third (38.0%) do not plan to transfer to a four-year college or university, while 23.4% plan to transfer after obtaining an AA at JCCC. A rather large percentage are uncertain about their transfer plans (27.7%). Very few plan to transfer after one or two semesters at JCCC (10.9%). Three students did not respond.

VIII SUGGESTIONS FOR PROGRAM CHANGES

Students were asked several questions which gave them an opportunity to make suggestions for program changes. One question asked what additional skills or knowledge areas should be added. A second question

asked what could be deleted and a third asked what should be changed.

The major additions requested were for more "hands on" experience, more languages and more computer applications in areas other than business. Other suggestions included the study of micro computers, more career information and learn to understand machines.

There was no consensus on possible deletions from the program. Some felt the use of teletypes was not essential for them. Others did not want to take humanities courses or other business courses.

The main change recommended was that summer data processing classes (particularly in the evening) were needed. The other change mentioned frequently was for more non-business applications and, in particular, some science applications were needed. Several students would like to have the System III returned.

Some students gave additional comments. Several of those comments were similar to the following examples:

> "I love this school. Thanks;" "JCCC is an excellent college and I have thoroughly enjoyed attending;" and "Teacher help is excellent, facilities excellent, location excellent. Very informal and enjoyable."

There were some areas which students felt should be addressed. They pertained to a request that data processing courses be reviewed for their transfer capability, night instructors hard to find, equipment should be available Saturday evening and Sunday, hard to see a counselor, teacher made unnecessary comments to a class about an absent student, machines in laboratory don't always work.

IX. COMPARISONS TO 1977 "GRADUATES"

The data processing students who either graduated or left with a marketable skill during spring 1977 differed in several ways from the student enrolled in spring 1978 data processing classes. Spring 1978 students were somewhat younger than the 1977 "graduates" (mean of 27 v. 31, median of 25 v. 28) and not as predominately male (51.1% v. 74%). Assuming that the 1978 graduates are similar to the 1977 graduates, women enrolled in data processing courses are less likely than men to graduate or leave with a marketable skill in data processing.

Twenty-seven percent of the spring 1978 data processing students had a bachelor's or other advanced degrees while 29 percent of the spring 1977 "graduates" had such degrees.

The instruction in the data processing program was rated excellent or good by 85 percent of both the spring 1977 "graduates" and spring 1978 students.

TABLE 1

STUDENT DEMOGRAPHIC CHARACTERISTICS
DATA PROCESSING, SPRING 1978

Characteristics		Percentage
Student Age:	16 - 17	1.6%
	18	9.3
	19	10.4
	20	5.4
	21	3.2
	22	3.2
	23	5.9
	24	4.9
	25 - 29	23.3
	30 - 34	17.4
	35 - 39	8.1
	40 - 54	6.8
	55+	0.5
		100.0%
Mean = 27 Years		
Median = 25 Years		
Mode = 19 Years		
Sex:	Male	51.1%
	Female	48.9
		100.0%
Attended another College:		
	Yes	50.8%
	No	49.2
		100.0%
If Yes, number of credit hours completed:		
	10 or Less	7.2%
	11 - 15	4.8
	16 - 30	9.6
	31 - 45	10.8
	46 - 64	6.0
	65 - 90	6.0
	91 - 121	3.6
	122 or More	52.0
		100.0%
Mean = 96 Credit Hours		
Median = 120 Credit Hours		

TABLE 2

REASON FOR ENROLLING, PRIOR OCCUPATION
AND CURRENT EMPLOYMENT STATUS

Enrolling/Occupation/Employment	Percentage
Reason For Enrolling At JCCC*	
Learn a new occupation	29.9%
Satisfy on-the-job training requirements	7.0
Improve present skills in this field	23.5
Transfer to a four-year college or university in this program	17.6
Find out if capable and interested in this field	31.6
Gain a general overview of this field	23.5
Occupation Before Enrolling At JCCC	
Unemployed and not looking for work	11.4%
Unemployed and looking for a job	3.2
Working full-time in program related job	22.7
Working part-time in program related job	5.4
Working full-time in another field	37.8
Working part-time in another field	19.5
	100.0%
Current Occupation	
Unemployed	15.1%
Employed full-time in program related job	26.9
Employed part-time in program related job	7.0
Employed full-time in another field	28.4
Employed part-time in another field	22.6
	100.0%

*Students could check more than one answer, so total percentage can exceed 100 percent.

TABLE 3

FACTORS INFLUENCING DECISION
TO ATTEND JCCC

Reason	Very Important	Somewhat Important	Not Important	No Response
Program Reputation	19.8%	40.1%	27.3%	12.8%
JCCC Reputation	16.0	48.7	21.9	13.4
JCCC Location	70.6	18.7	6.4	4.3
JCCC Cost	52.4	24.6	14.4	8.6
Work and Attend College	64.1	13.4	10.2	12.3

TABLE 4

DATA PROCESSING STUDENT RATINGS OF
CURRICULUM, INSTRUCTION, EQUIPMENT AND FACILITIES
SPRING 1978

Area	Excellent	Good	Average	Poor	No Response
Data Processing Curriculum	24.6%	54.0%	9.1%	0.0%	12.3%
Overall JCCC Curriculum	17.6	56.2	11.2	0.0	15.0
Data Processing Laboratory Facilities	15.5	48.7	22.4	4.3	9.1
Data Processing Equipment	13.9	48.7	23.5	3.7	10.2
Data Processing Instruction	31.0	54.0	7.0	1.1	6.9
Overall JCCC Instruction	15.0	57.2	11.2	1.6	15.0

TABLE 5

DATA PROCESSING STUDENT PERCEPTIONS ABOUT JCCC
SPRING 1978

Area/Question	Percentage
Do you feel as though you are learning anything in your program?	
Yes	93.1%
No	2.1
Qualified response	0.5
No response	4.3
	100.0%
Satisfaction with the knowledge offered by this program of study?	
Highly satisfied	23.5%
Satisfied	67.9
Unsatisfied	5.9
Highly unsatisfied	0.0
No response	2.7
	100.0%
Satisfaction with the skills training offered by this program of study?	
Highly satisfied	17.6%
Satisfied	69.5
Unsatisfied	10.2
Highly unsatisfied	0.0
No response	2.7
	100.0%
Degree of learning from program projects.	
A lot	66.3%
Some	26.7
Not much	1.1
No response	5.9
	100.0%
Have you taken any courses in this program at any other college or university?	
Yes and JCCC's are better	5.9%
Yes and JCCC's are comparable	10.7
Yes and JCCC's are not as good	2.1
No	75.4
No response	5.9
	100.0%
Would like degree to specify major field of study.	
Yes	51.3%
No	16.1
Don't care	23.0
No response	9.6
	100.0%

TABLE 6

EDUCATIONAL PLANS OF DATA PROCESSING STUDENTS
SPRING 1978

Area/Question	Percentage
Expectations	
Complete this program and receive AA degree	32.1%
Take only certain courses	41.7
Uncertain	25.1
No response	1.1
	100.0%
Credit Hours in Data Processing at end Spring 78 Semester	
Less than 5	34.0%
5 - 9	17.7
10 - 14	9.1
15 - 24	6.9
25 - 34	5.2
35 - 49	8.5
50 - 64	3.6
64+	4.7
No response	10.3
	100.0%
Mean = 18 Hours	
Median = 8 Hours	
Mode = 4 Hours	
Continue in program next semester?	
Yes	69.0%
No - summer courses limited	1.6
No - graduating	3.2
No - transferring	3.7
Undecided	8.6
No	9.1
No response	4.8
	100.0%
How many credit hours need to complete program?	
Less than 5	6.0%
5 - 9	8.9
10 - 14	7.5
15 - 24	29.9
25 - 34	14.9
35 - 49	16.4
50 - 64	11.9
64+	4.5
	100.0%
Mean = 28 Hours	
Median = 22 Hours	
Mode = 20 Hours	

TABLE 6
(Continued)

Area/Question	Percentage
Transfer to a four-year college or university	
Yes, after one semester at JCCC	4.9%
Yes, after one year at JCCC	6.0
Yes, after obtaining AA at JCCC	23.4
Uncertain	27.7
No	38.0
	100.0%

EDUCATIONAL NEEDS OF DATA PROCESSING COMMUNITY

METROPOLITAN KANSAS CITY

I. INTRODUCTION

When Johnson County Community College offered classes for the first time during fall 1969, data processing was one of the career programs available to students. The enrollment in data processing courses has increased markedly since that first semester. During the last nine years, however, a number of changes have occurred in the data processing field. In addition, more persons and companies are using data processing equipment. The JCCC data processing instructors felt that an assessment of existing offerings was needed to determine whether changes should be made in the data processing curriculum.

II. METHODOLOGY

The Coordinator of Data Processing in cooperation with the full-time data processing instructors and the Data Processing Advisory Committee developed a questionnaire during fall 1977. The questionnaire was mailed during spring 1978 to members of the Association for Computing Machinery, data processing managers at area companies, and members of a System III Users Group. All persons resided or worked at companies within the metropolitan Kansas City area.

Many current JCCC data processing students are already employed in the data processing field. Therefore, the questionnaire was also given to students enrolled in spring 1978 data processing courses.

III. RESPONDENT CHARACTERISTICS

(Tables 1 and 2)

The majority (71.5%) of employers were located on the Missouri side of the Metropolitan Kansas City area while the majority (64.4%)

of students were Johnson County residents. Six of the 189 employers and 48 of the 183 students, however, could not be classified by geographic area because they did not provide a zip code.

Most (83.4%) of the business respondents was employed as managers with the remaining 16.6 percent employed as operators, programmers and analysts. The business respondents had been employed in their current position from one to twenty-five years. Three out of four had been employed in their current job five years or less (22.0% - one year, 21.4% - two years, 12.1% - three years, 8.8% - four years, 9.3% - five years).

The mobility of persons in data processing is illustrated by the fact that 73.6 percent of the business respondents have been in their current job for five years or less, but 82.8 percent have been in data processing for six years or more. More than half (55.4%) of the business respondents have been in data processing jobs for ten or more years and some for as many as 28 years.

IV. COURSE INTERESTS

Computer Languages (Table 3)

Employers and current JCCC students have somewhat different interests in future computer languages. Prior experience is undoubtedly the major reason since business respondents already have taken a number of computer language courses.

Some interest was shown in almost every computer language mentioned (COBOL, ALC, RPG II, FORTRAN, PL/1 and BASIC). Employers seemed to be most interested in COBOL, BASIC, PL/1 and RPG II (particularily advanced). Students were most interested in COBOL, FORTRAN, PL/1, RPG II and ALC.

The main differences between current JCCC students and employers were for BASIC and FORTRAN. Almost half the JCCC students had taken

BASIC in contrast to 20 percent of the employers. However, one third of the employers had taken FORTRAN in contrast to almost 14 percent of the current JCCC students.

Data Processing Courses

Teleprocessing was the major interest of both employers and students. More than 70 percent of both groups were interested and one out of four would definitely take such a course.

Systems design and analysis, structural programming, data processing management, and data processing auditing was also topics of interest to more than 50 percent of the employers and students.

No one had taken a course on hobby or micro computers. Yet, about 50 percent of both groups were interested in both topics. About one out of ten employers and two out of ten students said they would definitely attend such classes.

Disaster planning had been taken by only two persons; yet 45.6 percent of the employers and 25.7 percent of the students were interested in such a course.

Overall, some employer and student interest was shown in all data processing courses listed on the survey instrument. Those courses were Teleprocessing, Systems Design & Analysis, Operating Systems, Data File Management, JCL, Data Processing Auditing, Hobby Computers, Micro Computers, Disaster Planning, Structured Programming, Data Processing Management, SPSS, CICS.

Related Course Preferences

Most students (83.4%) prefer credit courses. None of the students preferred a non-credit course. The business respondents find either credit or non-credit acceptable (38.3% prefer credit, 7.8% prefer non-credit, 53.9% either acceptable).

The evening from 5:00 to 10:00p.m., was preferred for semester classes with some current students preferring morning classes.

For mini courses, one week of evening classes or a weekend seminar was preferable to most students and employers. However, there was some interest in a mini course for one week during the day.

Two evenings per week was preferred by about one-third the respondents (students and employers). However, about twenty percent prefer one evening per week.

Classes could be taught on almost any day of the week since there were at least 10 percent interested in every day. Monday, Tuesday, Wednesday and Thursday were all preferred by about 40 percent while Saturday was preferred by 14 percent and Friday by 20 percent. On Friday, however, only 10 percent of the employers were interested in contrast to 33 percent of the students.

There was some interest in both large and small computer systems. Employers seemed slightly more interested in small systems (36.5%) than in large systems (30.2%). Current JCCC students seemed slightly more interested in large systems (49.7%) than in small systems (36.1%).

V. COMPUTER LANGUAGES AT RESPONDENT COMPANIES (TABLE 6)

No company used more than five languages and most used only one or two languages. COBOL and RPG II were each used by almost half the responding companies. A company which uses either COBOL or RPG II tends to use it as a major language as evidenced by the fact that four out of five companies using either of those two languages rank it as the major language.

ALC is used by slightly more than one-third of the responding employers. For those companies, ALC is either a major language or a second language at about 75 percent of the companies.

FORTRAN and PL/1 are used by about one-fourth the responding employers. For those companies, FORTRAN and PL/1 are either major or second languages for about 60 percent of those companies.

BASIC is used by about 10 percent of the responding employers. BASIC is a major or second language for about 60 of those companies.

VI. EMPLOYMENT IN METROPOLITAN KANSAS CITY

Education (Table 7)

A high school diploma is a necessity for a beginning programmer with almost all responding employers. One out of four employers requires an Associate Degree while one out of ten requires a Bachelor's Degree. Sixteen percent require education at a private computer school.

Experience (Table 7)

Half of the responding employers require experience for a beginning programmer in their company. From one to two years is the usual requirement.

Desirable Courses for Programmers (Table 8)

COBOL and RPG II are the two data processing courses most frequently needed for a beginning programmer. Howeve. ALC, FORTRAN, PL/1, BASIC and a variety of other courses are considered "Very Important" by a number of employers.

The hardware that a company currently owns would influence the need for a particular language. Thus, the data must be interpreted with care and hardware sales should be monitored to assess changes as they occur.

Job Opportunities in Metropolitan Kansas City (Table 9)

According to the responding employers, there is a shortage for

experienced programmers, operators and other data processing personnel in the metropolitan Kansas City area. Persons with four or more year experience are the most in demand. More than 70 percent of the responding employers felt there was a shortage of persons with more than five years experience. There is some shortage for persons at the trainee or entry level. However, some companies feel there is an excess. The problem may be that a few companies may have very specific needs which are difficult to meet.

Primary Sources of Programmers

A variety of sources are used for hiring programmers. The two primary sources are the classified ads and employment agencies. Other sources includes college recruiting, unsolicited resumes and applications or internal transfers. The sources are shown below together with the percentage of responding employers indicating each source.

- Classified ads (46.0%)
- Employment agency (29.1%)
- Unsolicited resumes and applications (15.9%)
- College recruiting (13.2%)
- Internal transfer (12.7%)
- Other sources (13.8%)

Interest in JCCC

One-third of the responding employers (N=66) expressed interest in having JCCC offer college credit for company training programs. Seventeen percent (N=32) were interested in having JCCC offer special courses designed to meet their company's needs.

Twenty-two percent (N=41) were also willing to hire JCCC data processing students for part-time employment. Another 34 percent needed further information before making a decision. Thus, approximately 56 percent expressed some interest in using JCCC data processing students for part-time employment.

VII. EMPLOYER DIFFERENCES

Since a large number of the respondents were members of a System III Users Group, the data were compiled separately for those respondents in contrast to the other area employers. Tables 10 to 20 present the data for the two groups of employers. There were a large number of similarities. However, as would be expected, there were some differences which are cited below.

Employer Characteristics

About one out of three Systems III respondents had been in data processing for 10 or more years in contrast to two out of three of the other employer respondents.

Computor Language Course Interest

Systems III respondents were more interested in COBOL, BASIC, and Advanced RPG II than were other employers. Half the Systems III respondents had taken Introductory RPG II.

Data Processing Course Interest

Systems III respondents were less interested than other employees in Operating Systems, Disaster Planning, and CICS. Systems III respondents expressed more interest in Data Processing Management.

Other Course Preferences

Systems III respondents prefer courses on small computer systems while other employers prefer courses on large computer systems.

Installation Languages

RPG II is the primary language for most of the Systems III respondents. COBOL, ALC AND RPG II were in order the three primary languages used by other area employers.

Desirable Courses for Programmers

Systems III respondents consider Introductory and Advanced RPG II to be the two most important courses. Introductory and Advanced COBOL were also considered to be important by about 30 percent of the Systems III employers.

The other employers consider Introductory and Advanced COBOL to be the two most important courses. Introductory ALC, Advanced ALC, FORTRAN, Introductory RPG II, Advanced RPG II were the next five courses reated important by at least one-third of the other area employers.

Job Opportunities in Kansas City

Respondents, in general, indicated a shortage for certain types of data processing staff. However, the shortage is perceived to be more severe by employers other than the Systems III users group.

Relationships with JCCC

Systems III employers were less interested than other employers in having JCCC offer special courses designed for their companies. But, some were interested in having JCCC offer college credit for company training programs.

There was also some interest from both types of employers in having JCCC data processing students for part-time experience.

TABLE 1

RESPONDENTS BY GEOGRAPHIC AREA

Geographic Area	Area Employers Number	Area Employers Percent	JCCC Students Number	JCCC Students Percent
Johnson County	26	14.2%	87	64.4%
Shawnee Mission	(23)	(12.6)	(71)	(52.6)
Olathe	(3)	(1.6)	(16)	(11.8)
Wyandotte/Leavenworth County	22	12.0%	8	5.9%
Metropolitan Kansas City, Missouri	131	71.5%	37	27.4%
Miami County	0	0.0%	3	1.6%
Other	4	2.2%	0	0.0%

Note.--Six employers and 48 students did not provide a zip code so could not be classified by geographic area.

TABLE 2

EMPLOYER CHARACTERISTICS

Characteristics	Number	Percentage
CURRENT POSITION (N=186)		
Operator	2	1.1%
Programmer	1	0.5
Programmer/Analyst	17	9.1
Analyst	3	1.6
Other-Non Management	8	4.3
Programmer Management	13	7.0%
Operations Management	11	5.9
Systems Management	12	6.5
Management of Data Processing	97	52.2
Other Management	22	11.8
YEARS IN CURRENT POSITION (N=182)		
One Year	40	22.0%
Two Years	39	21.4
Three Years	22	12.1
Four Years	16	8.8
Five Years	17	9.3%
Six Years to Nine Years	30	16.3
Ten Years to Nineteen Years	15	8.1
Twenty Years to Twenty Five Years	3	1.6
YEARS IN DATA PROCESSING (N=181)		
One Year to Five Years	31	17.2%
Six Years to Nine Years	50	27.6
Ten Years to Fourteen Years	59	32.5
Fifteen Years to Nineteen Years	29	16.0%
Twenty Years to Twenty Four Years	8	4.6
Twenty Five Years to Twenty Eight Years	4	2.3

TABLE 3

COMPUTER LANGUAGE COURSE INTEREST BY
JCCC STUDENTS AND AREA EMPLOYERS

Language		Definitely Would Take	Probably Would Take	Probably Not Take	Definitely Not Take	Already Taken Course
COBOL Introductory						
Area Employers	(N=112)	13.4%	19.6%	11.6%	15.2%	40.2%
JCCC Students	(N=152)	36.2	26.3	5.3	4.6	27.6
COBOL Advanced						
Area Employers	(N=113)	23.0	20.4	14.2	13.3	29.2
JCCC Students	(N=137)	45.3	26.3	10.9	5.1	12.4
ALC Introductory						
Area Employers	(N= 89)	3.4	19.1	30.3	20.2	27.0
JCCC Students	(N=107)	26.2	22.4	25.2	9.3	16.8
ALC Advanced						
Area Employers	(N= 87)	5.7	17.2	33.3	23.0	20.7
JCCC Students	(N=105)	20.0	32.4	27.6	10.5	9.5
RPG II Introductory						
Area Employers	(N= 99)	7.1	18.2	20.2	25.3	29.3
JCCC Students	(N=128)	25.0	21.1	15.6	7.8	30.5
RPG II Advanced						
Area Employers	(N=104)	11.5	23.1	17.3	27.9	20.2
JCCC Students	(N=116)	36.2	27.6	23.3	10.3	2.6
FORTRAN						
Area Employers	(N= 98)	6.1	11.2	25.5	25.5	31.6
JCCC Students	(N=139)	36.7	31.7	12.2	5.8	13.7
PL/1						
Area Employers	(N= 96)	13.5	17.7	22.9	30.2	15.6
JCCC Students	(N=118)	32.2	33.9	23.7	8.5	1.7
BASIC						
Area Employers	(N= 88)	12.5	22.7	23.9	21.9	19.3
JCCC Students	(N=136)	23.5	19.1	10.3	1.5	45.6
OTHER *						
Area Employers	(N= 23)	21.7	13.0	21.7	30.4	13.0
JCCC Students	(N= 17)	47.1	11.8	11.8	11.8	17.6

*Included MUMPS, APL, PL/M and Neat/3. Also included Assembler so some respondents did not know that ALC stands for Assembler language. Most respondents, however, did not specify what other language they would be interested in.

TABLE 4

DATA PROCESSING COURSE INTEREST BY
JCCC STUDENTS AND AREA EMPLOYERS

Course		Definitely Would Take	Probably Would Take	Probably Not Take	Definitely Not Take	Already Taken Course
Teleprocessing						
Area Employers	(98)	24.5%	46.9%	7.1%	6.1%	15.3%
JCCC Students	(102)	28.4	47.1	16.7	2.9	4.9
Systems Design & Analysis						
Area Employers	(95)	16.8	37.9	10.5	6.3	28.4
JCCC Students	(115)	35.7	40.9	11.3	3.5	8.7
Operating Systems						
Area Employers	(78)	12.8	33.3	16.7	11.5	25.6
JCCC Students	(108)	31.5	42.6	16.7	0.9	8.3
Data File Management						
Area Employers	(81)	16.0	34.6	19.8	8.6	21.0
JCCC Students	(97)	23.7	45.4	23.7	4.1	3.1
JCL						
Area Employers	(76)	14.5	18.4	26.3	11.8	28.9
JCCC Students	(94)	26.6	26.6	28.7	5.3	12.8
Data Processing Auditing						
Area Employers	(82)	9.8	46.3	28.0	11.0	4.9
JCCC Students	(89)	21.3	36.0	37.1	5.6	0.0
Hobby Computers						
Area Employers	(78)	11.5	35.9	25.6	26.9	0.0
JCCC Students	(88)	19.3	26.1	40.9	13.6	0.0
Micro Computer						
Area Employers	(74)	9.5	39.2	28.4	23.0	0.0
JCCC Students	(97)	22.7	35.1	35.1	7.2	0.0
Disaster Planning						
Area Employers	(81)	12.3	33.3	38.3	13.6	2.5
JCCC Students	(78)	9.0	16.7	56.4	17.0	0.0
Structural Programming						
Area Employers	(88)	14.8	35.2	21.6	8.0	20.5
JCCC Students	(98)	31.6	31.6	28.6	5.1	3.1

Note.--The numbers in parentheses refer to the number of persons who answered the question.

TABLE 4

DATA PROCESSING COURSE INTEREST BY
JCCC STUDENTS AND AREA EMPLOYERS
(Continued)

Course		Definitely Would Take	Probably Would Take	Probably Not Take	Definitely Not Take	Already Taken Course
Data Process Management						
Area Employers	(91)	16.5%	47.3%	16.5%	7.7%	12.1%
JCCC Students	(104)	31.7	46.2	17.3	3.8	1.0
SPSS						
Area Employers	(59)	8.5	10.2	40.7	32.2	8.5
JCCC Students	(71)	8.5	25.4	47.9	15.5	2.8
CICS						
Area Employers	(65)	18.5	24.6	32.3	16.9	7.7
JCCC Students	(74)	25.7	21.6	39.2	12.2	1.4
Other *						
Area Employers	(22)	27.3	36.4	22.7	13.6	0.0
JCCC Students	(8)	50.0	0.0	50.0	0.0	0.0

Note.--The numbers in parentheses refer to the number of persons who answered the question.

*Included Data Base Concepts and Management, CCP, Flow Charting, IMS, Os/MVS, OCL for System 13, and distributed processing network.

TABLE 5

RELATED COURSE PREFERENCES

Preferences	Area Employers (N=189)	JCCC Students (N=183)	All (N=372)
Prefer courses to be:			
Credit	38.3%	83.4%	64.0%
Non-credit	7.8	0.0	3.4
Either Acceptable	53.9	16.6	32.7
Prefer:			
Semester: 8 a.m. to Noon	2.1%	32.2%	16.9%
Noon to 5:00 p.m.	1.6	4.9	3.2
5:00 to 10:00 p.m.	41.3	54.5	48.7
Mini: Weekend Seminar	24.9%	10.4%	17.7%
One Week(day) Seminar	13.2	6.6	9.9
One Week (Night) Seminar	30.7	14.8	22.8
Other *	4.8%	6.6%	5.6%
Time for Classes:			
3 days per week	4.2%	27.9%	15.9%
2 days per week	3.7	15.3	9.4
1 day per week	4.8	12.6	8.6
2 nights per week	35.4%	31.1%	33.3%
1 night per week	18.5	26.2	22.3
No preference	10.6	6.6	8.6
Day Preference:			
Monday	25.9%	54.6%	40.1%
Tuesday	37.0	50.3	43.5
Wednesday	27.5	51.9	39.5
Thursday	35.9%	46.9%	41.4%
Friday	9.5	33.3	21.2
Saturday	15.3	13.1	14.2
Prefer Courses on:			
Large Computer Systems	30.2%	49.7%	39.8%
Small Computer Systems	36.5	36.1	36.3
Other**	6.3	2.7	4.6

*Included request for summer evening classes, Saturday morning, and semi-concentrated (four to six weeks for two or three hours on a one or two evening basis).

**Included Micro Systems, Inter-data, S45.

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TABLE 6

INSTALLATION LANGUAGES

Language	Ranking Use* 1	2	3	4	5	Total Number
RPG II						
Number	78	7	6	4	0	95
Percentage	(82.1%)	(7.4%)	(6.3%)	(4.2%)	(0.0%)	
ALC						
Number	24	27	13	4	1	69
Percentage	(34.8%)	(39.1%)	(18.8%)	(5.8%)	(1.4%)	
COBOL						
Number	76	12	3	2	2	95
Percentage	(80.0%)	(12.6%)	(3.2%)	(2.1%)	(2.1%)	
FORTRAN						
Number	17	10	12	5	1	45
Percentage	(37.8%)	(22.2%)	(26.7%)	(11.1%)	(2.2%)	
PL/1						
Number	14	4	8	4	1	31
Percentage	(45.2%)	(12.9%)	(25.8%)	(12.9%)	(3.2%)	
BASIC						
Number	9	3	3	3	1	19
Percentage	(47.4%)	(15.8%)	(15.8%)	(15.8%)	(5.3%)	
Other **						
Number	22	6	9	2	1	40
Percentage	(55.0%)	(15.0%)	(22.5%)	(5.0%)	(2.5%)	

*The lower the number, the greater the use--thus, 1 denotes major language used while 5 denotes language is used less frequently. Each respondent was asked to rank the language in order that their data installation used. No installation used more than five languages.

**Included PLS/II, Mark IV, PL/M, CICS, NEAT/3, MACRO, RPG Basic, Algol-like language, Burroughs Advanced Assignment, DLY 260, Dylakor, APL, ASI-ST, SNOBOL, Culprit.

TABLE 7

REQUIREMENTS FOR BEGINNING PROGRAMMER

Requirement	Number	Percentage
Education		
High School Diploma	89	47.1%
Associate Degree in Data Processing	45	23.8
Bachelor's Degree in Data Processing	22	11.6
Master's Degree in Data Processing	3	1.6
Doctor's Degree in Data Processing	0	0.0
Private Computer School	31	16.4
No Education Requirement	8	4.2
Other*	30	15.9
Experience		
Required	73	48.9%
One Year	(27)	(18.1%)
Two Years	(35)	(23.5%)
Three Years	(7)	(4.7%)
Four Years	(1)	(0.7%)
Seven Years	(1)	(0.7%)
Eight Years	(1)	(0.7%)
Ten Years	(1)	(0.7%)
None Required	76	53.0%

*Included need for at least one programming course, Bachelor's degree not necessarily in data processing, working knowledge of RPG II, aptitude, ability, attitude, Bachelor's degree in Engineering, Bachelor's degree with strength in mathematics, Bachelor's degree in a technical field, enough knowledge of COBOL so minimum supervision is required, good high school mathematics grades especially in geometry.

TABLE 8

DESIRABLE COURSES FOR PROGRAMMERS

Course		Very Important	Somewhat Important	Not Very Important	Not at all Important
COBOL Introductory	(116)	56.9%	14.7%	9.5%	19.0%
COBOL Advanced	(114)	52.6	17.5	10.5	19.3
ALC Introductory	(105)	19.0	25.7	18.1	37.1
ALC Advanced	(105)	12.4	21.9	21.0	44.8
RPG II Introductory	(128)	39.8	19.5	14.1	26.6
RPG II Advanced	(130)	36.2	20.0	13.8	30.0
FORTRAN	(102)	10.8	26.5	19.6	43.1
PL/1	(97)	6.2	17.5	20.6	55.7
BASIC	(96)	8.3	14.6	20.8	56.2
Other*	(33)	30.3	9.1	15.2	45.5

Note.--The numbers in parentheses refer to the number of employees who answered the question.

*Included JCL, documentation procedures, systems analysis, draftsmanship, accounting, bookkeeping, educational psychology, oral and written communications, business courses, personnel relations, structures programming, job control, mathematics, Mark IV, CICS, AS-IST, file management systems, logic, speech.

TABLE 9

DATA PROCESSING PERSONNEL
OPPORTUNITIES IN
KANSAS CITY

Job	Severe Shortage	Shortage	Adequate Supply	More than Adequate	Excess
PROGRAMMERS (N=110)					
Trainee	4.1%	17.5%	46.4%	20.6%	11.3%
Entry Level	3.0	24.0	49.0	21.0	3.0
1-3 years experience	23.6	34.5	34.5	6.4	0.9
4-5 years experience	29.9	41.1	26.2	2.8	0.0
Over 5 years	34.7	36.8	24.2	4.2	0.0
OPERATOR (N=107)					
Trainee	3.3%	13.2%	52.7%	15.4%	15.4%
Entry Level	5.3	20.0	50.5	17.9	6.3
1-3 years experience	12.1	30.8	45.8	10.3	0.9
4-5 years experience	19.1	33.0	42.6	4.3	1.1
Over 5 years	28.2	27.1	40.0	4.7	0.0
OTHER (N=28)					
Trainee	30.4%	17.4%	26.1%	13.0%	13.0%
En try Level	26.9	30.8	19.2	15.4	7.7
1-3 years experience	35.7	42.9	14.3	7.1	0.0
4-5 years experience	57.7	15.4	19.2	7.7	0.0
Over 5 years	58.3	16.7	20.8	4.2	0.0

TABLE 10

EMPLOYER CHARACTERISTICS

By System Type

Characterisiics	System III Users Group		Other Employers	
	Number	Percentage	Number	Percentage
CURRENT POSITION (N=186)				
Operator	2	3.4%	0	0.0%
Programmer	0	0.0	1	0.8
Programmer/Analyst	4	6.8	13	10.2
Analyst	0	0.0	3	2.4
Other-Non Management	3	5.1	5	3.9
Programmer Management	2	3.4	11	8.7
Operations Management	3	5.1	8	6.3
Systems Management	1	1.7	11	8.7
Management of Data Processing	37	62.7	60	47.2
Other Management	7	11.9	15	11.8
YEARS IN CURRENT POSITION (N=182)				
One Year	8	14.3	32	25.4
Two Years	10	17.9	29	23.0
Three Years	8	14.3	14	11.1
Four Years	6	10.7	10	7.9
Five Years	6	10.7	11	8.7
Six Years to Nine Years	9	16.1	21	16.7
Ten Years to Nineteen Years	7	12.6	8	6.4
Twenty Years to Twenty Five Years	2	3.6	1	0.8
YEARS IN DATA PROCESSING (N=181)				
One Year to Five Years	13	22.4	18	14.6
Six Years to Nine Years	23	39.7	27	22.1
Ten Years to Fourteeen Years	13	22.3	46	37.5
Fifteen Years to Nineteen Years	6	10.2	23	18.6
Twenty Years to Twenty Four Years	1	1.7	7	5.7
Twenty Five Years to Twenty Eight Years	2	3.4	2	1.6

TABLE 11

COMPUTER LANGUAGE COURSE INTEREST BY

System III Users Group and Other Employers

Language	Definitely Would Take	Probably Would Take	Probably Not Take	Definitely Not Take	Already Taken Course
COBOL Introductory					
Systems III Users (N=33)	18.2%	30.3%	15.2%	6.1%	30.3%
Other Employers (N=79)	11.4	15.2	10.1	19.0	44.3
COBOL Advanced					
Systems III Users (N=31)	29.0	29.0	19.4	9.7	12.9
Other Employers (N=82)	20.7	17.1	12.2	14.6	35.4
ALC Introductory					
Systems III Users (N=19)	0.0	21.1	52.6	15.8	10.5
Other Employers (N=70)	4.3	18.6	24.3	21.4	31.4
ALC Advanced					
Systems III Users (N=19)	0.0	15.8	52.6	21.1	10.5
Other Employers (N=68)	7.4	17.6	27.9	23.5	23.5
RPG II Introductory					
Systems III Users (N=32)	9.4	25.0	9.4	6.3	50.0
Other Employers (N=67)	6.0	14.9	25.4	34.3	19.4
RPG II Advanced					
Systems III Users (N=36)	19.4	27.8	8.3	2.8	41.7
Other Employers (N=68)	7.4	20.6	22.1	41.2	8.8
FORTRAN					
Systems III Users (N=22)	4.5	18.2	22.7	22.7	31.8
Other Employers (N=76)	6.6	9.2	26.3	26.3	31.6
PL/1					
Systems III Users (N=22)	13.6	18.2	31.8	22.7	13.6
Other Employers (N=74)	13.5	17.6	20.3	32.4	16.2
BASIC					
Systems III Users (N=23)	17.4	30.4	34.8	13.0	4.3
Other Employers (N=65)	10.8	20.0	20.0	24.6	24.6
OTHER*					
Systems III Users (N= 4)	0.0	0.0	50.0	25.0	25.0
Other Employers (N=19)	26.3	15.8	15.8	31.6	10.5

*Included MUMPS, APL, PL/M and Neat/3. Also included Assembler so some respondents did not know that ALC stands for Assembler language. Most respondents, however, did not specify what other language they would be interested in.

TABLE 12

DATA PROCESSING COURSE INTEREST BY

System III Users Group and Other Employers

Course	Definitely Would Take	Probably Would Take	Probably Not Take	Definitely Not Take	Already Taken Course
Teleprocessing					
System III Users (28)	25.0%	50.0%	0.0%	7.1%	17.9%
Other Employers (70)	24.3	45.7	10.0	5.7	14.3
Systems Design & Analysis					
System III Users (29)	17.2	44.8	6.9	3.4	27.6
Other Employers (66)	16.7	34.8	12.1	7.6	28.8
Operating Systems					
System III Users (20)	0.0	25.0	35.0	10.0	30.0
Other Employers (58)	17.2	36.2	10.3	12.1	24.1
Data File Management					
System III Users (19)	15.8	36.8	21.1	10.5	15.8
Other Employers (62)	16.1	33.9	19.4	8.1	22.6
JCL					
System III Users (18)	11.1	11.1	38.9	5.6	33.3
Other Employers (58)	15.5	20.7	22.4	13.8	27.6
Data Processing Auditing					
System III Users (21)	9.5	57.1	19.0	4.8	9.5
Other Employers (61)	9.8	42.6	31.1	13.1	3.3
Hobby Computers					
System III Users (19)	10.5	31.6	36.8	21.0	0.0
Other Employers (59)	11.9	37.3	22.0	28.8	0.0
Micro Computer					
System III Users (19)	10.5	26.3	42.1	21.1	0.0
Other Employers (55)	9.1	43.6	23.6	23.6	0.0
Disaster Planning					
System III Users (18)	5.6	27.8	44.4	16.7	5.6
Other Employers (63)	14.3	34.9	36.5	12.7	1.6
Structural Programming					
System III Users (22)	22.7	22.7	27.3	4.5	22.7
Other Employers (66)	12.1	39.4	19.7	9.1	19.7

Note.--The numbers in parentheses refer to the number of persons who answered the question.

TABLE 12

DATA PROCESSING COURSE INTEREST BY

System III Users Group and Other Area Employers
(Continued)

Course	Definitely Would Take	Probably Would Take	Probably Not Take	Definitely Not Take	Already Taken Course
Data Process Management					
System III Users (27)	14.8%	63.0%	7.4%	3.7%	11.1%
Other Employers (64)	17.2	40.6	20.3	9.4	12.5
SPSS					
System III Users (16)	6.3	6.3	50.0	31.3	6.3
Other Employers (43)	9.3	11.6	37.2	32.6	9.3
CICS					
System III Users (17)	17.6	11.8	41.2	29.4	0.0
Other Employers (48)	18.8	29.2	29.2	12.5	10.4
Other *					
System III Users (5)	0.0	40.0	40.0	20.0	0.0
Other Employers (17)	35.3	35.3	17.6	11.8	0.0

Note.-- The numbers in parentheses refer to the number of persons who answered the question.

*Included Data Base Concepts and Management, CCP, Flow Charting, IMS, Os/MVS, OCL for System 13, and distributed processing network.

TABLE 13

RELATED COURSE PREFERENCES

Preferences	System III Users (N=59)	Other Employers (N=130)
Prefer courses to be:		
Credit	47.7%	33.3%
Non-credit	4.5	9.5
Either acceptable	47.7	57.1
Prefer:		
Semester: 8 a.m. to Noon	0.0%	3.1%
Noon to 5:00 p.m.	1.7	1.5
5:00 to 10:00 p.m.	52.5	36.9
Mini: Weekend Seminar	16.9%	28.5%
One Week(day) Seminar	1.7	18.5
One Week (Night) Seminar	27.1	32.3
Other *	3.4%	5.4%
Time for Classes:		
3 days per week	1.7%	5.4%
2 days per week	5.1	3.1
1 day per week	6.8	3.8
2 nights per week	44.1%	31.5%
1 night per week	15.3	20.0
No preference	10.2	10.8
Day Preference:		
Monday	23.7%	26.9%
Tuesday	42.4	34.6
Wednesday	32.2	25.4
Thursday	33.9%	36.9%
Friday	3.4	12.3
Saturday	10.2	17.7
Prefer Courses on:		
Large Computer Systems	16.9%	36.1%
Small Computer Systems	55.9	27.7
Other**	5.1	6.9

*Included request for summer evening classes, Saturday morning, and semi-concentrated (four to six weeks for two or three hours on a one or two evening basis).

**Included Micro Systems, Inter-data, S45.

TABLE 14

INSTALLATION LANGUAGES

For System III Users

Language	Ranking Use* 1	2	3	4	5	Total Number
RPG II						
Number	55	0	0	0	0	55
Percentage	(100.0%)	(0.0%)	(0.0%)	(0.0%)	(0.0%)	
ALC						
Number	2	0	0	0	0	2
Percentage	(100.0%)	(0.0%)	(0.0%)	(0.0%)	(0.0%)	
COBOL						
Number	7	1	0	0	0	8
Percentage	(87.5%)	(12.5%)	(0.0%)	(0.0%)	(0.0%)	
FORTRAN						
Number	3	1	0	0	0	4
Percentage	(75.0%)	(25.0%)	(0.0%)	(0.0%)	(0.0%)	
PL/1						
Number	1	0	0	0	0	1
Percentage	(100.0%)	(0.0%)	(0.0%)	(0.0%)	(0.0%)	
BASIC						
Number	4	0	0	0	0	4
Percentage	(100.0%)	(0.0%)	(0.0%)	(0.0%)	(0.0%)	
Other**						
Number	3	0	0	0	0	3
Percentage	(100.0%)	(0.0%)	(0.0%)	(0.0%)	(0.0%)	

*The lower the number, the greater the use--thus, 1 denotes major language used while 5 denotes language is used less frequently. Each respondent was asked to rank the language in order that their data installation used. No installation used more than five languages.

** PLS/II, Assembler, MAR IV.

TABLE 15

INSTALLATION LANGUAGES

Other Area Employers

Language	Ranking Use* 1	2	3	4	5	Total Number
RPG II						
Number	23	7	6	4	0	40
Percentage	(57.5%)	(17.5%)	(15.0%)	(10.0%)	(0.0%)	
ALC						
Number	22	27	13	4	1	67
Percentage	(32.8%)	(40.3%)	(19.4%)	(6.0%)	(1.5%)	
COBOL						
Number	69	11	3	2	2	87
Percentage	(79.3%)	(12.6%)	(3.4%)	(2.3%)	(2.3%)	
FORTRAN						
Number	14	9	12	5	1	41
Percentage	(34.1%)	(22.0%)	(29.3%)	(12.2%)	(2.4%)	
PL/1						
Number	13	4	8	4	1	30
Percentage	(43.3%)	(13.3%)	(26.7%)	(13.3%)	(3.3%)	
BASIC						
Number	5	3	3	3	1	15
Percentage	(33.3%)	(20.0%)	(20.0%)	(20.0%)	(6.7%)	
Other**						
Number	19	6	9	2	1	37
Percentage	(51.4%)	(16.2%)	(24.3%)	(5.4%)	(2.7%)	

*The lower the number, the greater the use--thus, 1 denotes major language used while 5 denotes language is used less frequently. Each respondent was asked to rank the language in order that their data installation used. No installation used more than five languages.

** PLS/II, Assembler, MAR IV.

TABLE 16

DESIRABLE COURSES FOR PROGRAMMERS

System III Users Group

Course	Very Important	Somewhat Important	Not Very Important	Not at all Important
COBOL Introductory (N=24)	12.5%	16.7%	25.0%	45.8%
COBOL Advanced (N=24)	12.5	16.7	25.0	45.8
ALC Introductory (N=22)	0.0	9.1	22.7	68.2
ALC Advanced (N=22)	0.0	4.5	22.7	72.7
RPG II Introductory (N=45)	75.6	20.0	2.2	2.2
RPG II Advanced (N=48)	64.6	29.2	4.2	2.1
FORTRAN (N=24)	4.2	20.8	20.8	54.2
PL/1 (N=22)	0.0	4.5	22.7	72.7
BASIC (N=23)	4.3	13.0	21.7	60.9
Other* (N=9)	0.0	0.0	22.2	77.8

Note.-- The numbers in parentheses refer to the number of employers who answered the question.

*Included JCL, documentation procedures, systems analysis, draftmanship, accounting, bookkeeping, educational psychology, oral and written communications, business courses, personnel relations, structures programming, job control, mathematics, Mark IV, CICS, AS-IST, file management systems, logic, speech.

TABLE 17

DESIRABLE COURSES FOR PROGRAMMERS

Other Area Employers

Course	Very Important	Somewhat Important	Not Very Important	Not at all Important
COBOL Introductory (N=92)	68.5%	14.1%	5.4%	12.0%
COBOL Advanced (N=90)	63.3	17.8	6.7	12.2
ALC Introductory (N=83)	24.1	30.1	16.9	28.9
ALC Advanced (N=83)	15.7	26.5	20.5	37.3
RPG II Introductory (N=83)	20.5	19.3	20.5	39.7
RPG II Advanced (N=82)	19.5	14.6	19.5	46.3
FORTRAN (N=78)	12.8	28.2	19.2	39.7
PL/1 (N=75)	8.0	21.3	20.0	50.7
BASIC (N=73)	9.6	15.1	20.5	54.8
Other* (N=24)	41.7	12.5	12.5	33.3

Note.--The numbers in parentheses refer to the number of employers who answered the question.

*Included JCL, documentation procedures, systems analysis, draftmanship, accounting, bookkeeping, educational psychology, oral and written communications, business courses, personnel relations, structures programming, job control, mathematics, Mark IV, CICS, AS-IST, file management systems, logic, speech.

TABLE 18

DATA PROCESSING PERSONNEL OPPORTUNITIES
IN KANSAS CITY

Perceived by System III Users Group

Job	Severe Shortage	Shortage	Adequate Supply	More than Adequate	Excess
PROGRAMMERS (N=34)					
Trainee	7.1%	10.7%	53.6%	10.7%	17.9%
Entry Level	3.7	22.2	48.1	18.5	7.4
1-3 years experience	14.7	23.5	50.0	11.8	0.0
4-5 years experience	13.3	23.3	60.0	3.3	0.0
Over 5 years	20.7	31.0	41.4	6.9	0.0
OPERATOR (N=36)					
Trainee	6.9%	10.3%	62.1%	6.9%	13.8%
Entry Level	10.0	16.7	60.0	6.7	6.7
1-3 years experience	13.9	22.2	58.3	5.6	0.0
4-5 years experience	16.7	26.7	53.3	3.3	0.0
Over 5 years	28.6	14.3	57.1	0.0	0.0
OTHER (N=8)					
Trainee	25.0%	0.0%	50.0%	0.0%	25.0%
Entry Level	14.3	42.9	28.6	0.0	14.3
1-3 years experience	25.0	37.5	37.5	0.0	0.0
4-5 years experience	33.3	0.0	66.7	0.0	0.0
Over 5 years	40.0	0.0	60.0	0.0	0.0

TABLE 19

DATA PROCESSING PERSONNEL OPPORTUNITIES
IN KANSAS CITY

Perceived by Other Area Employers

Job	Severe Shortage	Shortage	Adequate Supply	More than Adequate	Excess
PROGRAMMERS (N=76)					
Trainee	2.9%	20.3%	43.5%	24.6%	8.7%
Entry Level	2.7	24.7	49.3	21.9	1.4
1-3 years experience	27.6	39.5	27.6	3.9	1.3
4-5 years experience	36.4	48.1	13.0	2.6	0.0
Over 5 years	40.9	39.4	16.7	3.0	0.0
OPERATOR (N=71)					
Trainee	1.6%	14.5%	48.4%	19.4%	16.1%
Entry Level	3.1	21.5	46.2	23.1	6.2
1-3 years experience	11.3	35.2	39.4	12.7	1.4
4-5 years experience	20.3	35.9	37.5	4.7	1.6
Over 5 years	28.1	33.3	31.6	7.0	0.0
OTHER (N=20)					
Trainee	31.6%	21.1%	21.1%	15.8%	10.5%
Entry Level	31.6	26.3	15.8	21.1	5.3
1-3 years experience	40.0	45.0	5.0	10.0	0.0
4-5 years experience	65.0	20.0	5.0	10.0	0.0
Over 5 years	63.2	21.1	10.5	5.3	0.0

TABLE 20

REQUIREMENTS FOR BEGINNING PROGRAMMER

By System Type

Requirement	System III Users		Other Employers	
	Number	Percentage	Number	Percentage
Education				
High School Diploma	29	46.0%	60	36.4%
Associate Degree in Data Processing	12	19.0	33	20.0
Bachelor's Degree in Data Processing	2	3.2	20	12.1
Master's Degree in Data Processing	0	0.0	3	1.8
Doctor's Degree in Data Processing	0	0.0	0	0.0
Private Computer School	8	12.7	23	13.9
No Education Requirement	4	6.4	4	2.4
Other*	8	12.7	22	13.4
Experience				
Required	24	54.5%	48	46.1%
One Year	(11)		(16)	
Two Years	(11)		(24)	
Three Years	(1)		(6)	
Four Years	(0)		(1)	
Seven Years	(0)		(1)	
Eight Years	(1)		(0)	
Ten Years	(0)		(0)	
None Required	20	45.5	56	53.9

*Included need for at least one programming course, Bachelor's degree not necessarily in data processing, working knowledge of RPG II, aptitude, ability, attitude, Bachelor's degree in Engineering, Bachelor's degree with strength in mathematics, Bachelor's degree in a technical field, enough knowledge of COBOL so minimum supervision is required, good high school mathematics grades especially in geometry.

APPENDIX

Survey Instruments

JCCC CAREER PROGRAM STUDENT SURVEY

Evaluation of existing programs is an on-going process at JCCC. Career programs must keep current. To do so, we need your help. Please answer all questions as accurately as possible. Your cooperation will help us improve the instruction available to you so that your needs can be better met by the College.

1. Age: _____ Sex: _____Male _____Female

2. In what program are you enrolled at JCCC? _____

3. I enrolled to:
   _____ Learn a new occupation
   _____ Satisfy on-the-job training requirements
   _____ Improve my present skills in this field
   _____ Transfer to a four-year college or university in this program
   _____ Find out if I am capable and interested in this field
   _____ Gain a general overview of this field

4. Before enrolling in this program:
   _____ I was unemployed and not looking for work.
   _____ I was out-of work and looking for a job.
   _____ I was working full-time in program related job
   _____ I was working part-time in program related job
   _____ I was working full-time in another field
   _____ I was working part-time in another field

5. Currently,
   _____ I am now unemployed
   _____ I am employed full-time in program related job
   _____ I am employed part-time in program related job
   _____ I am employed full-time in another field
   _____ I am employed part-time in another field

6. Have you attended any college other than JCCC?
   _____ Yes
   _____ No
   If yes, how many hours were completed elsewhere: _____Hours.

7. Would you like to have your degree from JCCC to specify a major field of study?
   _____ Yes
   _____ No
   _____ Don't care

8. I expect to:
   _____ Complete this program and receive an Associate of Arts degree
   _____ Take only certain courses
   _____ Uncertain
   Approximately how many credit hours will you have in this program at the end of the semester? _____Credit Hours.

9. If you do plan to complete the program, approximately how many more credit hours do you need?
_____ Credit Hours

10. Are you going to continue in the program next semester?
_____ Yes
_____ No
If "no", why not? _____

11. Do you plan to transfer to a four-year college or university?
_____ Yes, after one semester at JCCC
_____ Yes, after one year at JCCC
_____ Yes, after obtaining my Associate of Arts degree at JCCC
_____ Uncertain
_____ No

12. Do you feel as though you are learning anything in your program?
_____ Yes
_____ No
If "no", why not?_____

13. Please rate the following by checking one of the blanks in each case.

	Excellent	Good	Average	Poor
Program Curriculum	_____	____	_____	____
Overall JCCC Curriculum	_____	____	_____	____
Laboratory Facilities	_____	____	_____	____
Equipment	_____	____	_____	____
Program Instruction	_____	____	_____	____
Overall JCCC Instruction	_____	____	_____	____

The educational community often makes a distinction between knowledge and skills training. Knowledge is traditionally thought of as the instruction of how to perform a task, whereas skills training actually allows an individual to "do" or perform the task.

Knowledge = "how to..."
Skills Training = "to do..."

This distinction is referred to in the next four questions.

14. At this time, how satisfied are you with the knowledge offered by your program of study?
(check one)
_____ I am highly satisfied
_____ I am satisfied
_____ I am unsatisfied
_____ I am highly unsatisfied (Why?

15. At this time, how satisfied are you with the skills training offered by your program of study?
(check one)
_____ I am highly satisfied
_____ I am satisfied
_____ I am unsatisfied
_____ I am highly unsatisfied (Why?

16. Knowing what you know at this time, what, if any, additional knowledge or skills training do you believe should be offered by your program of study?
Specify:_____

_____

_____

17. As you perceive your potential job market, are there any skills or knowledge areas that you believe could be deleted from the present curriculum?

Specify:_____

_____

18. Below are some of the reasons that might have influenced your decision to attend JCCC rather than another college. How important was each reason in deciding to come here? (Mark one answer for each statement)

	Very Important	Somewhat Important	Not Important
Reputation of my specific program	_____	_____	_____
Reputation of JCCC overall	_____	_____	_____
Location of JCCC	_____	_____	_____
Cost of JCCC	_____	_____	_____
Opportunity to work and attend college	_____	_____	_____

19. Is there anything you would change in the current program?

_____

_____

20. From doing your program projects, I learned
_____ A lot
_____ Some
_____ Not much
Explain:_____

21. Have you taken any courses in this program at another college or university?
_____ Yes and JCCC's are better
_____ Yes and JCCC's are comparable to previous courses
_____ Yes and JCCC's are not as good
_____ No

We welcome your frank comments about your college and your program. The information will be used as guidelines for program improvement only and your comments will be considered STRICTLY CONFIDENTIAL. The space may also be used to explain some of the answers given in this questionnaire. (Use reverse side if necessary)

COMMENTS:

Johnson County Community College is conducting a survey to determine the educational needs of the Data Processing community in the metropolitan Kansas City area. As a member of that community your responses are very important to us. If you have any questions, call Darlene Ascanio between 8:00 and 5:00 weekdays at 888-8500 (ext. 396). Thank you for your time and cooperation.

NAME _____ TITLE _____

COMPANY _____ ADDRESS _____

CITY _____ STATE _____ ZIP _____

1. Have you taken any courses at Johnson County Community College? YES ___ NO ___

2. Which of the following courses would you consider taking?

A. Languages (Check all that apply)

		Would Definitely Take	Probably Would Take	Probably Would Not Take	Definitely Would Not Take	Have Already Taken This Course
___	COBOL Introductory					
___	COBOL Advanced					
___	ALC Introductory					
___	ALC Advanced					
___	RPG II Introductory					
___	RPG II Advanced					
___	FORTRAN					
___	PL/1					
___	BASIC					
___	OTHER _____					

B. Other courses (Check all that apply)

		Would Definitely Take	Probably Would Take	Probably Would Not Take	Definitely Would Not Take	Have Already Taken This Course
___	Teleprocessing					
___	Systems Design & Analysis					
___	Operating Systems					
___	Data File Management					
___	JCL					
___	Data Processing Auditing					
___	Hobby Computers					
___	Micro Computers					
___	Disaster Planning					
___	Structured Programming					
___	Data Processing Management					
___	SPSS					
___	CICS					
___	OTHER _____					
___	I am not interested in taking courses at this time. (Skip to question 5)					

3. a. Would you prefer to take Data Processing courses which are:

_____ Credit
_____ Non-credit
_____ Either acceptable

b. What duration of the course would best fit your needs? (Check all that apply)

_____ Semester
During what time period:
_____ 8:00 a.m. to noon
_____ noon to 5:00 p.m.
_____ 5:00 p.m. to 10:00 p.m.

_____ Mini (Concentrated)
During what time period:
_____ Weekend seminar
_____ One week (day) seminar
_____ One week (night) seminar

_____ Other _____
During what time period:
_____
_____
_____

c. How often would you like for your classes to meet? (Check all that apply.)

_____ 3 days per week
_____ 2 days per week
_____ 1 day per week
_____ 2 nights per week
_____ 1 night per week
_____ no preference

d. What day(s) would you prefer to attend classes? (Check all that apply.)

_____ Monday
_____ Tuesday
_____ Wednesday
_____ Thursday
_____ Friday
_____ Saturday

4. Are you interested in taking courses for: (Check all that apply.)

_____ Large Computer Systems (Specify which ones.) _____
_____ Small Computer Systems (Specify which ones.) _____
_____ Other _____

5. How would you classify your current position?

_____ Operator
_____ Programmer
_____ Programmer/Analyst
_____ Analyst
_____ Other
_____ Programmer Management
_____ Operations Management
_____ Systems Management
_____ Management of Data Processing
_____ Other Management _____

6. How many years have you held in your current position? _____

7. How many years experience do you have in Data Processing? _____

8. What language(s) does your Data Processing installation use? (Rank in order of use 1,2,3,)

_____	PRG II	_____	PL/1
_____	ALC (Assembler Language)	_____	BASIC
_____	COBOL	_____	NO LANGUAGE
_____	FORTRAN	_____	OTHER _____

ANSWER THE FOLLOWING QUESTIONS IF YOU HOLD A MANAGEMENT POSITION.

9. What requirements do you have for a beginning Programmer?

a. Education requirements

_____ High school diploma
_____ Associate degree in Data Processing
_____ Bachelor's degree in Data Processing
_____ Master's degree in Data Processing
_____ Doctor's degree in Data Processing
_____ Private Computer School
_____ No education requirement
_____ Other _____

b. What are the experience requirements?

_____ Number of years _____
_____ None

10. How important are the following courses for Programmers with your company?

	Very Important	Somewhat Important	Not Very Important	Not at All Important
COBOL Introductory				
COBOL Advanced				
ALC Introductory				
ALC Advanced				
RPG II Introductory				
RPG II Advanced				
FORTRAN				
PL/1				
BASIC				
OTHER				

Please list other courses you consider important.

_____

_____

11. Where do you hire the majority of your Programmers from?

_____ Employment agency
_____ Classified ads
_____ Internal transfer
_____ College recruiting
_____ Unsolicited resumes & applications
_____ Other _____

12. Would you like to have Johnson County Community College:

a. Offer college credit for company training programs? YES ___ NO ___

b. Offer special courses designed for your company's needs? YES ___ NO ___

13. Is there a shortage of trained Data Processing personnel in the Kansas City area?

	Severe Shortage	Shortage	Adequate Supply	More Than Adequate	Excess
a. Programmers					
Trainee					
Entry level					
1-3 years experience					
4-5 years experience					
Over 5 years					
b. Operator					
Trainee					
Entry level					
1-3 years experience					
4-5 years experience					
Over 5 years					
c. Other (Please specify.)					
_____					
Trainee					
Entry level					
1-3 years experience					
4-5 years experience					
Over 5 years					

14. Would you hire Data Processing students for part-time employment (On-the-job experience is a required part of their study for the Associate Degree in Data Processing).

YES _____
NO _____
NEED MORE INFORMATION _____

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LOS ANGELES
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